Demonstration of Dog Louisa Who Reacts to Acoustic Stimuli after Extirpation of Both Temporal Lobes

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DEMONSTRATION[1] OF DOG LOUISA WHO REACTS TO ACOUSTIC STIMULI AFTER EXTIRPATION OF BOTH TEMPORAL LOBES[2].

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[1] Demonstrated May 9, 1910, before the Gesellschaft für Psychiatrie und Neurologie, Berlin.

[2] See Vorläufiger Bericht: Demonstration eines Hundes, dem beide Schläfenlappen extirpiert worden sind. Neurolgisches Zentralblatt, 1910, No. 13.

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Dr. W. B. Swift, in demonstrating a dog with both temporal lobes extirpated, said:

This demonstration will show that a dog may be trained to differentiate between two tones after both temporal lobes are extirpated. The dog—Louisa— was trained by me to take meat at the tone *c* and refuse it at the tone *c*. After a few weeks of such training, Prof. L. Jacobsohn, of Berlin, removed the left temporal lobe. Then, following a further training for several weeks, he removed the right temporal lobe. After some weeks' training, the dog was demonstrated in Berlin before the Berlin Society for Psychiatry and Neurology, and there differentiated tones as in the following demonstration.

I. (Louisa in box, meat on block.) Six or eight times tones *c* and *c* were sounded. At *c* she took the meat; at *c* she refrained. Dr. Mitchell, of Danvers, requested that the eating tone be sounded first. This was done and the dog ate.

From this demonstration in Berlin it was the consensus of opinion at that time (with one exception) that the dog could not hear, but could react to two tones. Reaction to other tones was absent. Since that time, during the last four months, she has gradually regained a reaction to other tones, as follows:

II. Whistles, calls and clapping of hands offered as stimuli, to which the dog reacted by pricking up her ears, throwing her head back and turning around.

Dr. E. W. Taylor asked what part of the temporal lobe had been extirpated, and what was said in Berlin about the pathway stimulus.

Dr. J. J. Thomas remarked that it was easy to train dogs to react to small stimuli, as, for example, slight movements, as horses have been known to do, all of which should be taken into consideration in judging the acts of this dog.

Dr. Swift (closing): The question of Dr. Taylor about the pathway of the stimuli is one which has not been investigated. I don't know what it is. Little was said about it at the Berlin demonstration other than theoretical. The suspicion of Dr. Thomas is quite in order. As the training proceeded I noticed that the dog would react to slight movements of my hand, as a motion stimulus is always easier to react to than a sound stimulus. Therefore the box was used to shield the operator's movements from her observation. Since the operations she has been blind, thus making that precaution now unnecessary.

The interpretation of these results as presented in Berlin are of interest. (*a*) Kalischer concluded the reaction to tone after removal of the temporal lobes to be a pure reflex—a subcortical action. (*b*) Rothmann, finding no reaction after his double extirpation, concluded it an act of the temporal cortex. (*c*) Professor Jacobsohn and myself concluded it was an extemporal cortical act. My reasons for this conclusion are based upon the observations that action has inhibition, purpose and slowness in too marked a degree to class it as a simple reflex; and, therefore, it must be a cortical act, extemporal.